brother

## Multi-Protocol Print/Fax Server

# NC-9100h

# Network User's Guide

Please read this manual thoroughly before using the DCP/MFC. You can print or view this manual from the CD-ROM at any time, please keep the CD-ROM in a convenient place for quick and easy reference at all times.

The Brother Solutions Center (http://solutions.brother.com) is your one stop resource for all your DCP/MFC needs. Download the latest drivers and utilities for your printers, read the FAQs and troubleshooting tips or learn about special printing solutions in the 'Solutions' and 'Customer Education' sections.

Some Brother DCP/MFC models are network ready as standard. Other Brother printers can be upgraded with an optional Network Print Server.

Version 0

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If for any reason you must ship your print server, carefully package the print server to avoid any damage during transit. It is recommended that you save and use the original packaging. The print server should also be adequately insured with the carrier.

### WARNING

When shipping the Print/Fax server, put it into the anti-static bag to avoid damage.

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# Introduction

## Overview

The Brother NC-9100h Print / Fax Server allows your Brother DCP/MFC to be attached and shared on a 10/100Mbit Ethernet Network. Web Based Management and Administration utilities provide easy configuration and management of your Brother DCP/MFC. Once installed and configured, the NC-9100h allows your DCP/MFC machine to FAX documents over the Internet; print and scan documents over a network. The NC-9100h is even supplied with Brother's Peer to Peer printing software allowing you to easily share the machine as a small department printer.

## Features

### Internet Fax

The Brother DCP/MFC can be assigned an E-mail address allowing you to send, receive and forward documents on a Local Area Network and the Internet to PC's or other Internet Fax machines.

SMTP/POP3 mail server support.

### Network Printing

The Print / Fax server can be utilized as a print server providing printing services for the Windows® 95/98/Me, Windows® NT®4.0/2000/XP, Unix Systems supporting the TCP/IP protocols, Novell Operating Systems supporting IPX/SPX and Macintosh Networks supporting AppleTalk or Rendezvous.

### Network Scanning

You can scan documents into a PC on your Network directly or the Brother DCP/MFC can E-mail them to your PC for editing in Black & White or Color.

### Management Utilities

The Web Based Management and BRAdmin Professional utilities provide powerful easy to use management of Fax, network and E-mail settings.

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Responsible Party: Brother International Corporation
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declares, that the products

Product Name: Brother Network Card (BR-net)
Model Number: NC-9100h

complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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EMC: EN 55022 Class B, EN 55024

following the provisions of the Low Voltage Directive 73/23/EEC and the Electromagnetic Compatibility Directive 89/336/EEC (as amended by 91/263/EEC and 92/31/EEC).

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# 1 Unix Printing

## Printing from Unix/Linux using TCP/IP

### Overview

Brother Print/Fax servers are supplied with the Transmission Control Protocol/Internet Protocol (TCP/IP) protocol suite. Since virtually all UNIX host computers support TCP/IP, this capability allows a printer to be shared on a UNIX Ethernet network. As with all protocols, TCP/IP communications can proceed concurrently while other protocols are active, this means that UNIX, NetWare, Apple, and other computers can share the same Brother print server over an Ethernet network.

The Linux operating system uses the same setup procedures as standard Berkeley UNIX systems. Refer to this chapter for a typical GUI based Linux installation.

**Quick Tips:**

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the printer control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the DCP/MFC.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address on your DCP/MFC.

3. The default password for Brother Print/Fax servers is `access`.

4. The default name for a Brother Print/Fax server is usually `BRN_xxxxxx` (where `xxxxxx` is the last six digits of the Ethernet address of the Print/Fax server).

5 When configuring the PRINTCAP file, pay particular attention to the service names, BINARY_P1 and TEXT_P1.

## TCP/IP

Brother Print/Fax servers appear to the network as a UNIX host computer with a unique IP address running the lpd (line printer daemon) protocol. As a result, any host computer that supports the Berkeley remote LPR command can spool jobs to Brother print servers without the need for any special software on the host computer. For special applications, raw TCP ports are also available.

Brother Print/Fax servers also support the FTP protocol. This protocol can be used to send print jobs from Unix systems.

The Brother Print/Fax server is pre-configured to run on a TCP/IP network with a minimum of setup. The only mandatory configuration of the Print/Fax server is the allocation of an IP address, which can be either automatically assigned using DHCP, BOOTP etc., or manually assigned using the ARP command, BRAdmin Professional utility, or the DCP/MFC control panel.

For setting the IP address of the Print/Fax server, refer to the Quick Setup Guide or to *chapter 11* of this user guide.

## General TCP/IP UNIX Host Configuration

The configuration process for most UNIX systems is described in the following steps. As this process varies, we recommend that you refer to your system documentation for additional information.

1 Configure the `/etc/hosts` file on each UNIX host that needs to communicate with the Print/Fax server. Use your favorite editor to add an entry to the `/etc/hosts` file containing the IP address and node name of the device. For example:

```
192.189.207.3      BRN_310107
```

The actual format of the entry may vary depending on your system, check your system documentation and also note the format of other entries in the `/etc/hosts` file.

The node name in this file does not necessarily need to be the same as the one that is actually configured into the Brother Print/Fax server (the name that appears on the printer configuration page), however, it is good practice to make the names the same. Some operating systems, such as HP/UX, do not accept the "_" character in the default name, for these systems you must use a different name).

In any case, the node name in the `/etc/hosts` file must match the node name in the `/etc/printcap` file.

Some systems such as HP/UX and AIX allow you to enter the IP address as the host name when setting up the print queue. If this is the case, you do not need to configure the hosts file.

*2* Choose which Print/Fax server service you want to use. There are several types of services available on Brother Print/Fax servers. Binary services pass data through unmodified and are therefore required for PCL or PostScript rasterized graphics printouts. Text services add a carriage return at the end of each line for proper formatting of UNIX text files (which end in linefeed and do not have carriage returns). The text service can also be used for non-rasterized graphics, such as ASCII PostScript graphics or many types of PCL graphics.

Choose one of the available services (a service name will be used in step 3):

BINARY_P1 Binary data
TEXT_P1 Text data (CR added)

You may set up multiple print queues on your UNIX host computer for the same Print/Fax server, each one with a different service name (for example, one queue for binary graphics jobs and one for text jobs).

*3* Configure the `/etc/printcap` file on each host computer to specify the local print queue, the Print/Fax server name (also called remote machine or rm), and the Print/Fax server service name (also called remote printer, remote queue, or rp), and the spool directory.

This step applies to the majority of UNIX systems, including Linux, Sun OS (but not Solaris 2.xx), Silicon Graphics (lpr/lpd option required), DEC ULTRIX, DEC OSF/1, and Digital UNIX. SCO UNIX users should follow these steps, but should also refer to the *SCO UNIX Configuration* section. Users of RS/6000 AIX, HP/UX, Sun Solaris 2.xx, and other systems that do not use the printcap file should skip to section 3-a. SCO user's should also skip to section 3a (SCO uses the printcap file, but this file is automatically configured via the `rlpconf` command).

An example of a typical printcap file:

```
laser1|Printer on Floor 1:\
:lp=:\
:rm=BRN_310107:\
:rp=TEXT_P1:\
:sd=/usr/spool/lpd/laser1:
```

Make sure this information is added to the end of the printcap file. Also make sure that the last character in the printcap file is a colon ":".

This will create a queue named laser1 on the host computer that communicates to a Brother print server with a node name (rm) of BRN_310107 and a service name (rp) of TEXT_P1 printing text files to a Brother printer through spool directory `/usr/spool/lpd/laser1`. If you are printing binary graphics files, you would use the service BINARY_P1 instead of TEXT_P1.

The rm and rp options are not available on some UNIX systems, so if necessary check your documentation to determine the equivalent options.

Users of Berkeley-compatible UNIX systems can use the lpc command to obtain the printer status:

```
%lpc status
laser1:
queuing is enabled
printing is enabled
no entries
no daemon present
```

Users of AT&T-compatible UNIX systems can generally use the lpstat or rlpstat commands to obtain similar status information. Because this procedure varies from system to system, refer to your system documentation for the exact usage.

4 Skip this section if you have completed Step 3, unless you have an SCO UNIX system.

If you have an HP/UX system, IBM RS/6000 AIX computer, or Sun Solaris 2.xx, there is no printcap file. This is also true for some other AT&T-based UNIX systems, as well as many VMS-based TCP/IP software packages (for example, UCX, TGV Multinet, etc.). On SCO systems, there is a printcap file, but it is automatically configured by the rlpconf command. Most of these systems generally use a printer setup program to define the service name (remote printer), the print server name (remote machine) or IP address, and the local queue name (spool directory). Refer to the appropriate section depending on your version of Unix.

## Linux Configuration

If you do not wish to use the command line interface to configure your Linux distribution, you may wish to use the Linux Printer System Manager application on your GUI. To do this, do the following:

1. From the Linux Printer System Manager screen, click the **Add** button.

2. You will now be asked to specify which Printer type you are using, select the **Remote Unix (lpd) Queue** option and click **OK**.

3. You must now specify the remote host name, remote queue name and the input filter to use.

4. The **Remote Host** name is the IP address of the printer, or the name from the hosts file which corresponds to the IP address of the printer.

5. The **Remote Queue** name is the service name that the printer will use when processing the data. Generally we recommend that you use the name “BINARY_P1”, however, if you are planning to send text documents that do not have a carriage return and a line feed, then use “TEXT_P1”.

6. Select the appropriate **Input Filter** from the list of available printers on your particular build of Linux.

In order to make your settings work, select the **Restart lpd** option. As soon as the lpd server restarts, you will be able to send printed documents from your server.

### Linux Configuration using CUPS

Many Linux systems support Common Unix Printing System (CUPS). CUPS typically uses PPD that are on Brother’s BR-Script (Brother’s Postscript language emulation) ready machines. If you are using a Brother printer that does not include the BR-Script emulation you must use an alternative driver.

For more detailed information on Linux printing visit the Brother Solutions web site at: http://solutions.brother.com

## HP/UX Configuration

In the case of HP/UX10.xx, the sam program is used to set up the remote printer. The steps are as follows:

1. Execute the sam program. From the list of options, select **Printers and Plotters**.
2. Select **LP Spooler**.
3. Select **Printers and Plotters**.
4. Select **Actions** and then **Add Remote Printer/Plotter**.
5. Enter any name as the **Printer Name** (this will be the name of the print queue).
6. Enter the IP address of the Print/Fax server as the **Remote System Name**.
7. Enter the desired Print/Fax server service name as the **Remote Printer Name**.
8. Check the box next to **Remote Printer is on BSD system**.
9. You may accept the default values for the remaining items.
10. Click **OK** to configure the printer.

You should now be able to print using the lp-d command with the printer name.

If you are using the HP distributed print service, the configuration procedure is slightly different because you are sending the print jobs to a file server, which in turn spools the job to the Print/Fax server. You must therefore know the name of the file server (spooler host) in addition to the above information. You will add a physical and a remote printer, and then assign a logical printer to the remote printer (a unique name that does not match any other name). To print, use the lp -d command with the logical printer name.

Earlier versions of HP/UX use similar procedures to 10.xx users:

1. Enter sam and select **Peripheral Devices** and then **Add Remote Printer (not Networked printer)**.

2. Enter the following remote printer settings (the other settings do not matter):

   - **Line printer name** (user-selectable).
   - **Remote system name** (the Print/Fax server name; must match what is in hosts file or use Print/Fax server IP address).
   - **Remote printer queue** (Print server binary or text service name, e.g. BINARY_P1 or TEXT_P1).
   - **Remote Printer is on a BSD System** (Yes).

## IBM RS/6000 AIX Configuration

The RS/6000 AIX operating system uses the smit program to set up the remote printer. The procedure is as follows for AIX 4.0 and later:

1. Enter smit and select **devices**.

2. Select **Printer/Plotter**.

3. Select **Print Spooling**.

4. Select **Add a Print Queue**.

5. Select **Remote**.

6. Enter the following Remote Printer Settings:

   **Name of queue** (user selectable)
   **Host name of Remote Printer** (Print/Fax server name; must match name in `/etc/hosts` file or use the print server IP address)
   **Name of queue on remote printer** (Print/Fax server binary or text service name, eg. BINARY_P1 or TEXT_P1).
   **Type of print spooler**. BSD (press the LIST button and choose BSD)

The procedure for pre-V4.0 systems is as follows.

1. Enter smit and select **devices**.
2. Select **printer/plotter**.
3. Select **manage remote printer subsystem**.
4. Select **client services**.
5. Select **remote printer queues**.
6. Select **add a remote queue**.
7. Enter the following remote queue settings:
   - **Name of queue to add** (user selectable).
   - **Activate the queue** (Yes).
   - **Destination host** (Print/Fax server name; must match name in `/etc/hosts` file or use the Print/Fax server IP address)
   - **Name of queue on remote printer** (Print/Fax server binary or text service name, eg. BINARY_P1 or TEXT_P1).
   - **Name of device to add** (user selectable; for example `lp0`).

## Sun Solaris 2.x Configuration

Sun Solaris 2.x uses the lpsystem and lpadmin programs for remote printer configuration:

```
lpsystem -t bsd prnservername
lpadmin -p queue -s prnservername!prnserverservice
accept queue     (not required on newer Solaris systems)
enable queue     (not required on newer Solaris systems)
```

Where `queue` is the name of the local Print/Fax queue.
`prnservername` is the name of the Print/Fax server (must match the entry in the `/etc/hosts` file or IP address).
`prnserverservice` is the print server BINARY_P1 or TEXT_P1 service.

If this is the first printer configured, you must also use the `lpsched` command prior to the `accept` command.

As an alternative, you may use Printer Manager in the Admintool utility under OpenWindows. Select **Edit**, **Add**, and **Add Access to Remote Printer**. Then enter the Print/Fax server name in the format `prnservername!\prnserverservice` as described above. Make sure that the printer server OS is set to **BSD** (the default setting), and click **Add**.

Note that we recommend that you use the `/etc/hosts` file for the printer name rather than NIS or other name services. Also note that due to a bug in the Sun lpd implementation on Solaris 2.4 and earlier releases, you may experience problems printing very long print jobs. If this is the case, a workaround is to use the raw TCP port software as described later in this chapter.

## SCO UNIX Configuration

To configure a printer in version Version 5.x of SCO Unix, use the SCOADMIN program.

1. Select **Printers** and then **Print Manager**.
2. On the menu select **Printer** and then **Add Remote** followed by **Unix...**
3. Enter the IP address of the Print/Fax server, and type in the name of the printer that will be used to spool to.
4. Deselect **Use External remote Printing Protocol...**
5. To eject the printed page, add the command `rp=lpaf` to the `/etc/printcap` file.

SCO UNIX requires TCP/IP V1.2 or later to work with Brother print servers. You must first configure the `/etc/hosts` and `/etc/printcap` files as described in step 2. Then run the sysadmsh program as follows:

1. Select **Printers**.
2. Select **Configure**.
3. Select **Add**.
4. Enter the name of the print queue you entered in the `/etc/printcap` file as the Printer name.
5. Enter anything as the **Comment**, and **Class name**.
6. For the **Use printer interface** select **Existing**.
7. Press the F3 key to get a list of available interfaces, and select the desired one as the **Name of interface** using the cursor keys (`Dumb` is a good choice).
8. Select **Direct** as the **Connection**.
9. Enter the desired Device name (`/dev/lp` generally works).
10. Select **Hardwired** as the **Device**.
11. Select **No** for the **Require banner** field.

**Older SCO Unix Systems**
The Brother NC-9100h Print/Fax servers support the FTP protocol. Earlier SCO Unix systems are often configured to print using the FTP protocol.

## IBM AS/400

To use a Brother Print/Fax server with an IBM AS/400 running IBM's TCP/IP gateways services for OS/400 (the OS/400 system must be v3.1 or later)

Use the CFGTCP command at your OS/400 prompt to add the Print/Fax server's TCP/IP address to the AS/400 host table.

Use the following one-line OS/400 command to create the LPD queue:

```
CRTOUTQ OUTQ(<queuename> RMSTSYS
(*INTNETADR) RMTPRTQ(<service>)
AUTOSTRWTR(1) CNNTYPE(*IP) DESTTYPE (*OTHER)
MFRTYPMDL (<driver>)
INTNETADR('<ipaddress>') TEXT
('<description>')
```

where `<queuename>` is the new AS/400 print queue name, `<service>` is the Print/Fax server service name (BINARY_P1 or TEXT_P1) `<driver>` is the OS/400 printer driver name (*HP4 is recommended if in doubt), and `<ipaddress>` is the IP address of the Print/Fax server. Note that the IP address and description must be enclosed in single quotes.

## Other Systems

Other systems use similar programs to set up Print/Fax servers. These programs will generally ask for the following information:

| **Requested information:** | **You should use:** |
|---|---|
| remote printer | Binary or Text service name |
| remote host computer name | Any name (must match the name in the printcap file, if any) or in some cases, you may enter the Print/Fax server IP address here |
| remote host IP address | IP address of Print/Fax server. |

Technical support specialists for these companies can usually answer configuration questions if you provide them with the equivalent UNIX configuration information (tell them that the Print/Fax server looks like a remote UNIX host computer running the lpd line printer daemon).

If you have not created a spool directory for the Brother Print/Fax server on your UNIX host computer, you will need to do so now (the printer setup utilities in HP/UX, AIX, Solaris 2.xx, and other systems will automatically create the spool directory). The lpd spool directory is usually located in the `/usr/spool` directory (check with your system manager to see if the location is different for your system). To create a new spool directory, use the `mkdir` command. For example, to create a spool directory for the queue laser1, you would enter:

```
mkdir /usr/spool/lpd/laser1
```

On some systems it is also necessary to start the daemon. This is done on Berkeley-compatible UNIX systems with the `lpc start` command as shown in the following example:

```
lpc start laser1
```

## Other Sources of Information

1. Visit http://solutions.brother.com/ for more information on network printing.
2. Refer to *chapter 11* of this user guide to learn how to configure the IP address of the printer.

# 2 TCP/IP Printing

## Printing from Windows® NT, Windows® 2000/XP, LAN Server and Warp Server

### Overview

Users of Windows® NT can print directly to a network-ready Brother DCP/MFC using the TCP/IP protocol. Microsoft Windows® NT users must install Microsoft's "TCP/IP Printing" protocol. Windows® 2000/XP users are able to send print jobs directly to the printer without installing any additional software. Brother's print server also supports transparent printing from IBM LAN Server and OS/2 Warp Server file servers, as well as from OS/2 Warp Connect workstations using the TCP/IP protocol.

**Quick Tips:**

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the DCP/MFC control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

2. The default password for Brother Print/Fax servers is `access`.

3. Windows® NT users must install the Microsoft's "TCP/IP Printing" protocol.

4. Windows® 2000/XP users can print using TCP/IP using the standard Network Printing software and IPP protocol software built into any Windows® 2000/XP installation.

5 Windows® 95/98/Me users can send print jobs using the IPP protocol via a Windows® 2000/XP computer provided that the Microsoft Internet Print Services software is installed on the client PC, IIS is installed and running on the Windows® 2000/XP computer and that the client PC is using version 4 or later of Microsoft Internet Explorer.

6 The default name for a Brother Print/Fax server is usually `BRN_xxxxxx` (where `xxxxxx` is the last six digits of the Ethernet address of the Print/Fax server).

## Windows® NT 3.5x/NT 4.0/2000/XP (TCP/IP) Configuration

If you have not already done so, install the TCP/IP protocol onto your Windows® NT system. This is done via the **Network** icon in the **Control Panel** window of the Windows® NT system (the **Control Panel** is in the **Main** window on NT 3.5x systems, or use the **Start** button on NT 4.0 to access the **Settings/Control Panel** menu). The default configuration of Windows® 2000/XP automatically installs the TCP/IP protocol. Refer to the appropriate section in this chapter for more information.

## Windows® 2000/XP Printing (Printer Driver not yet installed)

By default, Windows® 2000/XP systems install with all the necessary software required for you to be able to print. This chapter describes the two most commonly used configurations, Standard TCP/IP Port printing and IPP (Internet Printing Protocol). If you have already installed the printer driver, jump to the **printer driver already installed** section.

### Standard TCP/IP Port Printing

1 From the **Printers** folder select **Add Printer**. The **Add Printer Wizard** will now start. Click on **Next**.

2 Now select the **Local Printer** option and deselect the **Automatically detect and install my Plug and Play printer** option.

3 Click on **Next**.

4 You must now select the correct Network printing port. Select **Create a new port** and select **Standard TCP/IP Port** port from the pull-down window.

5 When you have done that click **Next**.

6 The **Add Standard TCP/IP Port Wizard** will now appear. Click the **Next** button.

7 Enter the IP address, or name of the printer you wish to configure. The Wizard will automatically enter the Port name information for you.

8 Click the **Next** button.

9 Windows® 2000/XP will now contact the printer that you specified. If you did not specify the correct IP address or name then you will receive an error message.

10 Click the **Finish** button to complete the Wizard.

11 Now that you have configured the port, you must specify which printer driver you wish to use. Select the appropriate driver from the list of supported printers. If you are using a driver supplied with the DCP/MFC on CD-ROM then select the **Have Disk** option to browse to the CD-ROM. You can also click the **Windows Update** button to connect directly to Microsoft's support Web site to download printer drivers.

12 When the driver is installed, click the **Next** button.

13 Specify a name and click the **Next** button.

14 Now specify if you wish to share the printer, enter the share name and click **Next**.

15 Continue through the Wizard clicking the **Finish** button when complete.

## IPP Printing from Windows® 2000/XP Clients

If you wish to print using the IPP protocol, follow these steps:

1. From the **Printers** folder select **Add Printer**. The **Add Printer Wizard** will now start. Click on **Next**.

2. For Windows® 2000: Select **Network Printer**.
   For Windows® XP: Select **A Network Printer, or a Printer attached to another computer**.

3. For Windows® 2000: Click the **Connect to a printer on the Internet or on your intranet** option.
   For Windows® XP: Click the **Connect to a printer on the Internet or on a home or office network** option.

4. You must now enter a URL name. A typical example of a URL name for a printer that supports the IPP protocol is: `http://ip_address:631/ipp` (where `ip_address` is the IP address, NetBIOS name or DNS name of the Print/Fax server).

5. Click the **Next** button.

6. Windows® 2000/XP will now connect to the device that you specified and determine the model number of the printer. If the appropriate driver is installed on the PC, it will be used. If the appropriate driver is not available you will be asked to insert the driver diskette that was supplied with the printer.

7. Follow the Wizard through to the end of the installation.

8. Click the **Finish** button to complete the Wizard.

### IPP printing from Windows® 95/98/Me Clients

It is also possible to send IPP print jobs from a Windows® 95/98/Me client PC, provided that the PC has the ability to connect to and access Windows® 2000/XP resources. Visit the Microsoft web site (www.microsoft.com) and download the Windows® Internet Print Services support software for Windows® systems.

Once installed, this software will allow you to connect to a Windows® 2000/XP system that is also running IIS and send print jobs using the IPP protocol.

By using Microsoft's IPP software you can also send jobs to other printers that do not support the IPP protocol.

## Windows® 2000/XP Printing (Printer Driver already installed)

If you have already installed the printer driver and wish to configure it for network printing, follow these steps:

1. Select the printer driver you wish to configure.
2. Select **File** and then choose **Properties**.
3. Click the **Ports** tab of the driver and click **Add Port**.
4. Select the port that you wish to use. Typically this would be **Standard TCP/IP Port**. Then click the **New Port...** button.
5. The **standard TCP/IP Port Wizard** will start. Follow steps 6-10 of the “Standard TCP/IP Port Printing” section.

## Windows® NT 4.0 Printing

If you did not install the TCP/IP protocol during the installation of your Windows® NT 4.0 system (either workstation or server) follow these steps. If you have already installed the TCP/IP protocol, proceed to the next section.

1. Go to the **Start** button, choose **Settings**, and then select **Control Panel**.
2. Run the **Network** applet by double clicking the **Network** icon and then click on the **Protocols** tab.
3. Select **Add**, and double click on the **TCP/IP Protocol**.
4. Insert the requested disk(s), or CD-ROM, to copy the required files.
5. Click the **Close** button. The Windows® NT system will review protocol bindings and then you will see the **TCP/IP Properties** dialog.

6 Configure the host IP address, subnet mask, and gateway address in that dialog. Consult your system manager for these addresses.

7 Click **OK** to exit (your NT workstation or server will need to be re-booted).

## Windows® NT 4.0 Printing Installing the Brother Peer to Peer Software

1 Start the CD-ROM installation menu program according to the Quick Setup Guide.

2 Select the desired Language and then select **Install Software**. Then select the **Network Print Software** installation program.

3 Click on **Next** in response to the Welcome message.

4 Select the **Brother Peer to Peer Print (LPR)** button.

5 Select the desired directory to install the **Brother Peer to Peer Print (LPR)** files and click on **Next**. The installation program will create the directory for you if it does not already exist on your disk.

6 Enter the Port name that you wish to use and click **OK**. The default port name is BLP1. Whichever name you choose, it must be unique and it MUST begin with BLP.

7 You must now enter the actual IP address of the print server in the IP Address field. If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the name of the print server. As the print server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the print server. The NetBIOS name can be seen in the printer configuration page. By default the NetBIOS name will appear as `BRN_xxxxxx` where `xxxxxx` is the last six digits of the Ethernet address.

8 Click the **OK** button. When prompted you must re-boot your computer.

## Windows® NT 4.0 Printing Associating to the Printer

You must now create a printer on your Windows® system using the standard Windows® printer setup procedure.

1. To do this, go to the **Start** button, select **Settings** and then **Printers**.
2. Double click the **Add Printer** icon to get the **Add Printer Wizard**.
3. Select **My Computer** (not Network Printer) and click on **Next**.
4. Select the Brother LPR Port (the port name you assigned in step 6 of the “Installing Brother Peer to Peer Software” section in this chapter) and click on Next.
5. Select the desired printer model. If the correct model is not displayed, click on the **Have Disk** option and insert the CD-ROM supplied with your printer.
6. If the driver already exists, select **Keep Existing Driver** (if it does not exist, this step will be skipped), and then click on **Next**.
7. If desired, change the name of the printer then click **Next**.
8. If desired, make the printer shared (so other user can access it), and select the operating system(s) that these other computers will be running. Click on **Next**.
9. Select **Yes** when you asked **Would you like to print a test page?**. Click on **Finish** to complete the installation. You may now print to the printer as if it were a local printer.

## Windows® NT 4.0 Printing
## Adding a Second Brother LPR Port

You do not need to re-run the install program to add a new Brother LPR port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of the printer that you wish to configure, select **File** from the menu bar, and then choose **Properties**. Click on the **Ports** tab and push the **Add Port** button. In the **Printer Ports** dialog, highlight **Brother LPR Port**. Click the **New Port** button and enter the port name. The default port name is BLP1. If you have already used this name, you will get an error message if you try to use it again, in which case use BLP2, etc... Once you have specified the port name, click the **OK** button. You will then see the **Port Settings** dialog.

Enter the IP address of the printer that you wish to print to and click **OK**. And then click **Close** in the **Printer Ports** dialog. You should now see the port that you have just created in the **Print to the following port(s)** setting of the printer driver.

## Other Sources of Information

1. Visit http://solutions.brother.com/ for more information on network printing and for documents on the IPP protocol and how to configure a Windows® 2000/XP/95/98/Me/XP System.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address of the MFC.

# 3 Peer to Peer Printing

## How to Print in a Windows® 95/98/Me Peer to Peer network

### Overview

Microsoft's Windows® 95/98/Me operating systems feature built-in networking capabilities. These capabilities allow a Windows® PC to be configured as a client workstation in a file server based network environment.

For smaller networks, Windows® 95/98/Me also allows the PC to operate in a peer-to-peer mode. In this mode, the PC can share resources with other PCs on the network without the need for a central file server.

#### Quick Tips:

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9.. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the DCP/MFC control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address on your DCP/MFC.

3. The default password for Brother Print/Fax servers is `access`.

4 Windows® 95/98/Me users can send print jobs using the IPP protocol via a Windows® 2000 computer providing that the Microsoft Internet Print Services software is installed on the client PC, IIS is installed and running on the Windows® 2000/XP and that the client PC is using version 4 or later of Microsoft Internet Explorer.

5 Brother printers are also compatible with HP JetDirect software, this means that you can use HP utilities to manage and to print to your Brother printer.

### Driver Deployment Wizard

This installer includes the Windows driver and Brother network port driver (LPR and NetBIOS).

If the administrator they installs the printer driver and port driver using this software, he can save the file to the File server or send the file in E-mail to users. Then, each user just clicks On that file to have the printer driver, port driver, IP address, and so on, automatically installed to their PC.

For more information, see the Driver Deployment Wizard User's Guide on the CD-ROM.

## TCP/IP Printing

Our Peer to Peer printing software requires the TCP/IP protocol to be installed on your Windows® peer-to-peer computers and an IP Address has to be defined for the Print/Fax server. Refer to your Windows® documentation for more information on how to configure the TCP/IP protocol on your Windows® PC.

If you haven't already done so, configure the IP address of the DCP/MFC, for more information on IP address configuration, refer to *chapter 11* of this user guide.

## Installing the Brother Peer to Peer Software

If you already installed the driver from the printer's CD-ROM Installer and you selected "Brother Peer-to-Peer Network Printer" during the installation then you do not need to install the Brother Network Print Software again.

1. Start the CD-ROM installation menu program according to the Quick Setup Guide.

2. Select the proper model and then the **Software Installation** menu. Then select the appropriate menu to start the **Brother Network Print Software** installation program.

3. Push the **Next** button in response to the Welcome message.

4. Select the **Brother Peer to Peer Print (LPR)** button.

5. Select the desired directory to install the **Brother Peer to Peer Print (LPR)** files and push **Next**. The installation program will create the directory for you if it does not already exist on your disk.

6. Enter the **Port name** that you wish to use and click **OK**. The default port name is BLP1. Whichever name you choose, it must be unique and it MUST begin with BLP.

7. You must now enter the actual IP address of the Print/Fax server in the **Printer name or IP address** field. If you have edited the hosts file on your computer or are using Domain Name System, you can also enter the name of the print server. As the Print/Fax server supports TCP/IP and NetBIOS names, you can also enter the NetBIOS name of the Print/Fax server. The NetBIOS name can be seen in your printer configuration page. By default the NetBIOS name will usually appear as `BRN_xxxxxx` where `xxxxxx` is the last six digits of the Ethernet address.

Windows® 95/98/Me store the hosts file in the default Windows® directory. By default, the Windows® hosts file is called `hosts.sam`. If you wish to use the hosts file you must rename the file to `hosts` with no extension. The .sam extension stands for sample.

8 Click the **OK** button. When prompted you must re-boot your computer.

## Associating to the printer

You must now create a printer on your Windows® system using the standard Windows® printer setup procedure.

1 To do this, go the **Start** button, select **Settings** and then **Printers**.

2 Select **Add Printer** to begin the printer installation.

3 Click **Next** when you get the **Add Printer Wizard** window.

4 Select **Local Printer** when you are asked how the printers are connected to your computer, and then push **Next**.

5 Select the correct driver. Click **Next** when you are done.

6 If you have selected a printer driver that is already being used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

7 Select the Brother LPR port (the port name you assigned in step 6 of the “Installing the Brother Peer to Peer Software” section) and press **Next**.

8 Enter any desired name for the Brother printer and press **Next**. For example, you could call the printer “Networked Brother Printer”.

9 Windows® will now ask you if you wish to print out a test page, select **Yes** and then select **Finish**.

You have now finished installing the Peer to Peer Print (LPR) software.

## Adding a Second Brother LPR Port

You do not re-run the install program to add a new Brother LPR port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of the printer that you wish to configure, select **File** from the menu bar, and then choose **Properties**. Click on the **Details** tab and push the **Add Port** button. In the **Add Port** dialog, select the **Other** radio button and then highlight **Brother LPR port**. Click **OK** and enter the port name. The default port name is BLP1. If you have already used this name, you will get an error message if you try to use it again, in which case use BLP2, etc... Once you have specified the port name, click the **OK** button. You will then see the **Port Properties** dialog.

Enter the IP address of the printer that you wish to print to and click **OK**. You should now see the port that you have just created in the **Print to the following port** setting of the printer driver.

## Other Sources of Information

1. Visit http://solutions.brother.com/ for more information on network printing.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address of the DCP/MFC.

# 4 NetBIOS Peer to Peer Printing

## How to Print using NetBIOS in Windows® 95/98/Me/NT/2000/XP, LAN Server and OS/2 Warp Server

### Overview

Brother Print/Fax server range supports SMB (Server Message Block) over the TCP/IP protocol via the NetBIOS interface. This means that just like regular Windows® PC's, Brother printers can appear in your network neighborhood. The main advantage of NetBIOS printing is that you are able to print from legacy DOS applications that are running on PC's that are connected to Microsoft networks.

**Quick Tips:**

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the DCP/MFC control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address on your printer.

3. The default password for Brother Print/Fax servers is `access`.

4. The default domain name of the Print/Fax server is `WORKGROUP`, to change it use your web browser or the BRAdmin Professional utility.

## Print Server Configuration

In order for this function to work, you must correctly change the DOMAIN name or WORKGROUP name to match that of your network. Once this is done, the Print/Fax server will appear automatically in your network neighborhood and you will be able to send print documents to it without having to install additional software. However, in some instances you may find that your Windows® 95/98/Me and Windows® NT4.0/2000/XP systems may receive “Printer is busy” error messages when more than one person attempts to access the printer. In this instance Brother has provided the “Brother NetBIOS Port Monitor” software which allows users to continue spooling print jobs while the printer is busy, down or out of paper. The port monitor will hold the jobs until the printer is again available.

When you install Windows® 95/98/Me you are asked which workgroup you belong to. The default workgroup name for Windows® 95/98/Me is `WORKGROUP`, however you could change this to anything you want. With Windows® NT, Microsoft introduced the concept of “Domains”. A domain offers centralized security management whereas a workgroup offers distributed security management. The Print/Fax server does not care if your network consists of a Workgroup or a Domain, the only thing you must tell it is the name of the workgroup or domain. The Brother Print/Fax server automatically has a default workgroup/domain name of `WORKGROUP`. If you need to change name, you can configure the Brother print server to recognize this. There are three ways of doing this. (If you are unsure about the name of your workgroup or domain, look in the identification tab in your network applet).

- Use BRAdmin Professional utility (This utility can use the TCP/IP protocol or Netware IPX protocol - no file server necessary.)
- Use a Web browser (the Print/Fax server must have a valid IP address and your computer must also have a valid IP address); you can configure the IP address by using BRAdmin Professional utility.
- Use front panel on the DCP/MFC. (See *chapter 10*.)

Because of the way that Microsoft networks work, the Print/Fax server may take several minutes to appear in the network neighborhood. You will also find that the Print/Fax server may take several minutes to disappear from the network neighborhood even if the printer is switched off. This is a feature of Microsoft workgroup and domain based networks.

## Changing the workgroup/domain name using a web browser

You can change the workgroup/domain name using BRAdmin Professional utility. To do this press NetBIOS tab and then enter your workgroup/domain name into the **Domain Name** text box.

You can also use a standard WWW browser to change the NetBIOS name. To do this, connect to the print server using its IP address and then select the **Configure NetBIOS** option from the **Network Configuration** screen, then enter your workgroup/domain name into the **Domain Name** text box. Make sure you submit the changes (click on the **Submit** button).

## NetBIOS Port Monitor for Windows® 95/98/Me, NT4.0/2000/XP

This software requires the TCP/IP transport protocols to be installed on your Windows® 95/98/Me, NT4.0/2000/XP computer. To install those protocols refer to your Windows® documentation.
If you are using the TCP/IP protocol, the proper IP address should be defined on both the Brother Print/Fax server and your client PC.

## Installing the Brother NetBIOS Port Monitor

If you already installed the driver from the printers CD-ROM Installer and you selected “Brother Peer to Peer Network Printer” during the installation then you do not need to install the Brother Network Print Software again.

1. Start the CD-ROM installation menu program according to the Quick Setup guide.

2. Select the proper model and then the **Software Installation** menu. Then select the **Network Print Software** menu to start the **Brother Network Print Software** installation program.

3. Push the **Next** button in response to the Welcome message.

4. Select **Brother Peer to Peer Print (NetBIOS)** installation

5. Select the desired directory to install the **Brother Peer to Peer Print (NetBIOS)** files and push **Next**.

6. Enter the port name that you wish to use. The port name must start with “BNT”. For example BNT1. Whichever name you choose, it must be unique. Then press **OK**. The name must be unique on your PC, however other computers can use the same port name as the name you specify on your PC.

7 You must now enter the server name and port name for the actual Print/Fax server. You can use the **Browse** button to search for the Print/Fax server, select the domain/workgroup name, and then the server is listed. If the print server does not automatically appear in your browse list, then you must ensure that the domain name is configured correctly. Otherwise you must enter the name manually. The name should be compliant with UNC (Universal Name Convention). For example: `\\NodeName\ServiceName`.

Where NodeName is the NetBIOS name of the Brother Print/Fax server (the default name is usually `BRN_xxxxxx`, where `xxxxxx` is the last six digits of the Ethernet address), and `ServiceName` is the service name for NetBIOS of the Print/Fax server. By default it is BINARY_P1. For example:

`\\BRN_310107\BINARY_P1`

You can find the NetBIOS name and MAC address by printing out the printer configuration page. Refer to the User's Guide Chapter 23 for information on how to DCP/MFC the configuration page on your Print/Fax server.

8 Then press **OK**.

9 Click the **Finish** button. You must now restart your computer before you can continue.

## Associating the printer

1 You must now create a printer on your Windows® 95/98/Me, Windows NT® 4.0 and Windows® 2000/XP systems using the standard Windows® printer setup procedure. To do this, go the **Start** button, select **Setting** and then **Printers**.

### Windows® 95/98/Me

2 Select **Add Printer** to begin the printer installation.

3 Click **Next** when you get the **Add Printer Wizard** window.

4 Select **Local Printer** when you are asked how the printer is connected to your computer, and then push **Next**.

5 Select the correct driver. Click **Next** when you are done.

6 If you have selected a printer driver that is already being used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

7 Select the **Brother NetBIOS Port** (the port name you assigned in step 6 of the “Installing the Brother NetBIOS Port Monitor” section and press **Next**.

8 Enter any desired name for the Brother DCP/MFC and press **Next**. For example, you could call the printer “Networked Brother Printer”.

9 Windows® will now ask you if you wish to print out a test page, select **Yes** and then select **Finish**.

You are now ready to print. If necessary, you can share the printer on your PC so that all print jobs are routed through your computer.

### Windows NT® 4.0 /Windows® 2000/XP

2 Select **Add Printer** to begin the printer installation.

3 Click **Next** when you get the **Add Printer Wizard** window.

4 Select **Local printer** (Windows® 2000) or Local printer attached to this computer (Windows® XP) when you are asked how the printer is connected to your computer, and then push **Next**.

5 Select the **Brother NetBIOS Port** (the port name you assigned in step 7 of the “Installing the Brother NetBIOS Port Monitor” section and press **Next**.

6 Select the correct driver. Click **Next** when you are done.

7 If you have selected a printer driver that is already used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

8 Enter any desired name for the Brother printer and press **Next**. For example, you could call the printer “Networked Brother Printer”.

9 Select **Not Shared** or **Shared** and **Share Name** and press **Next**.

10 Windows® will now ask you if you wish to print out a test page, select **Yes** and then select **Finish**.

You are now ready to print. If necessary, you can share the printer on your PC so that all print jobs are routed through your computer.

## Adding a Second NetBIOS Print Port

1 You do not need to re-run the installation program to add a new NetBIOS port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of the printer that you wish to configure, select **File** from the menu bar, and then choose **Properties**.

### Windows® 95/98/Me

2 Click on the **Details** tab and push the **Add Port** button. In the **Add Port** dialog, select the **Other** radio button and then highlight **Brother NetBIOS port**. Click **OK** and enter the port name. The default port name is BNT1. If you have already used this name, you will get an error message if you try to use it again, in which case use BNT2, etc... Once you have specified the port name, click the **OK** button. You will then see the **Port Properties Dialog**. Enter the Print/Fax server and port name of the printer that you wish to print to and click **OK**. You should now see the port that you have just created in the **Print to the following port** setting of the printer driver.

### Windows NT® 4.0 / Windows® 2000/XP

2 Click on the **Port/s** tab and push the **Add Port** button. In the **Add Port** dialog, highlight **Brother NetBIOS port**. Click **New Port** and enter the port name. The default port name is BNT1. If you have already used this name, you will get an error message if you try to use it again, in which case use BNT2, etc... Once you have specified the port name, click the **OK** button. You will then see the **Port Properties Dialog**. Enter the Print/Fax server and port name of the printer that you wish to print to and click **OK**. You should now see the port that you have just created in the **Print to the following port** setting of the printer driver.

## Other Sources of Information

1 Visit http://solutions.brother.com/ for more information on network printing.

2 Refer *chapter 11* of this user guide to learn how to configure the IP address of the printer.

# 5 Configuring Internet

# Printing for Windows®
## Internet Printing Installation

### Overview

Brother's Brother Internet Print (BIP) software, for Windows® 95/98/Me/NT4.0, allows a PC user at one location to send a print job to a Brother Printer at a remote location via the Internet. For example, a user on a PC in New York could print a document directly from his Microsoft Excel application program to a printer in Paris.

Windows® 2000/XP users can also use this BIP software, but are recommended to use the IPP protocol support that is part of the Windows® 2000/XP operating systems. Skip to the "Windows® 2000 IPP Printing" section of this document.

**Quick Tips:**

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the DCP/MFC control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

2. Refer to *chapter 11* of this user guide to learn how to configure the IP address on your printer.

3. The default password for Brother Print/Fax servers is `access`.

4. Windows® 2000/XP users can print using TCP/IP using the standard Network Printing software and IPP protocol software built into any Windows® 2000/XP installation.

5 Windows® 95/98/Me users can send print jobs using the IPP protocol via Windows® 2000 computer, provided that the Microsoft Internet Print Services software is installed on the client PC, Internet Information Server (IIS) is installed and running on the server and that the client PC is using version 4 or later of Microsoft Internet Explorer.

## Brother Internet Print General Information

The BIP software is installed using a standard Windows® 95/98/Me/NT4.0/2000/XP Installation Wizard. It creates a virtual port on the Windows® 95/98/Me/NT4.0/2000/XP PC that operates in a similar way to the standard LPT1 printer port from the application program point of view. The user can use the Windows® 95/98/MeNT4.0/2000/XP Print Manager to create a printer that uses this port along with a standard Windows® 95/98/Me, NT4.0/2000/XP-compatible printer. Any Windows® 95/98/Me/NT4.0/2000/XP applications program can therefore print to this printer (and hence to the virtual port) without modification or operational procedure.

When a job is printed to the BIP virtual port, it is actually MIME-encoded (converted to a standard Internet E-mail message) and sent out to a Brother Print/Fax server at the remote location. This means that BIP is compatible with most common E-mail software packages. The only requirement is that the E-mail server be capable of sending E-mail message over the Internet.

In more detail, the procedure works in the following way:

- If you are connected to a Local Area Network, the E-mail message is passed to the E-mail server, which in turn transmits the message out over the Internet using the SMTP protocol (Simple Mail Transport Protocol) to the remote Print/Fax server.

- If you are connecting via a modem directly to an Internet Service Provider (ISP), the ISP handles the routing of the E-mail to the remote Print/Fax server.

- At the remote site, an E-mail server receives the E-mail message. The remote Print/Fax server, which has its own E-mail address, uses the POP3 protocol (Post Office Protocol 3) to download the E-mail message from the E-mail server. It then decodes the attachment and prints it out on the printer.

If an E-mail is received that has not been configured to use the BIP virtual port driver, the printer will print the E-mail out as a text document.

## Brother Internet Print Configuring the Brother Print/Fax Server

The Print/Fax server can be configured using BRAdmin Professional utility or by using a web browser.

### Print Server Configuration Checklist

Before configuring the print server to receive BIP jobs, be sure that the E-mail server at the remote site (the receiving end) is configured to handle the TCP/IP POP3, and SMTP protocols (SMTP is only required if the notification feature is enabled).

1. Configure the POP3 server on the E-mail server at the remote site with a mail account (Mailbox name) and password for the Brother Print/Fax server (generally, the mail account name will be the first part of the Email address; for example, if you assign the E-mail address emailprinter@xyz.com, then the mail account name would be emailprinter).

2. Make sure that the Print/Fax server is installed and running with TCP/IP enabled and has a valid IP address assigned to it.

Because access to the E-mail server on most networks is usually restricted, you may need to have your network administrator check the configuration and add the mail account.

## Brother Internet Print
## Using BRAdmin Professional utility to Configure the Print Server

Skip this section if you wish to use the Web Browser to configure the Print/Fax server.

Using the BRAdmin Professional utility, you can configure the Brother print server using the TCP/IP protocol, or the IPX protocol.

The steps required to configure the Print/Fax server to receive print jobs from a Windows® 95/98/Me/NT4.0/2000/XP. PC running the BIP software is as follows:

1. Start BRAdmin Professional utility.
2. Select the node name of the desired Brother Print/Fax server from the list and double click on it. (the default node name is usually `BRN_xxxxxx`, where `xxxxxx` is the last six digits of the Ethernet address (MAC address)). You will be prompted for a password; the default password is `access`.

You can find the node name and MAC address by printing out the DCP/MFC configuration page. Refer to the User's Guide Chapter 23 for information on how to print the configuration page on your Print/Fax server.

3. Click on the **POP3/SMTP** tab.
4. Enter the address of the POP3 server (consult your network administrator if you do not know this address).
5. Enter the mailbox name for the remote Brother Print/Fax server. Usually this will be the first part of the E-mail address (for example, if the E-mail address of the print server is `emailprinter@xyz`, then the mailbox name would be `emailprinter`).
6. Enter the password for the mailbox, if any.

7 The Print/Fax server is configured by default to poll the POP3 server every 30 seconds. You may change this value, if desired.

8 If you have enabled notification, enter the address of your SMTP server (consult your network administrator if you do not know this address).

9 Press the **OK** button and save the changes. Now exit the BRAdmin Professional utility. You have now configured the Print/Fax server to receive print jobs.

## Brother Internet Print Using a Web Browser to configure the Print Server

1 Connect to the printer server IP address using your web browser.

2 When you reach the network configuration screen, you will be prompted for a password. The default password is “access”.

3 Select the Configure POP3/SMTP option and enter the information as described above. Refer to “*Brother Internet Print Using a Web Browser to configure the Print Server*”.

4 You should see a Segmented Message Timeout option. If a print job is separated into multiple E-mail messages using the Partial E-mail Print feature of the BIP, this value indicates how long the Print/Fax server will wait for all of the segments of the message to arrive.

## Brother Internet Print Installing the BIP software on Windows® 95/98/Me/NT4.0/2000/XP

To install the BIP software on a Windows® 95/98/NT4.0/2000/XP PC, execute the following steps:

- Be sure that the PC is running an E-mail program (for example, Microsoft Outlook) that is capable of sending E-mail message using Winsock.
- Be sure that your E-mail server is capable of sending messages across the Internet.

## Setup from CD-ROM

1. Start the CD-ROM installation menu program according to the Quick Setup guide.
2. Select the proper model and **Software Installation** menu. Then select the **Network Print Software** menu to start the **Brother Network Print Software** installation program.
3. Push the **Next** button in response to the Welcome message.
4. Select the **Brother Internet Print** button.
5. Select the desired directory to install the BIP files and then push **Next**. The installation program will create the directory for you if it does not already exist.
6. You will then be asked for a port name. Enter the name of the port. The port name must begin with the BIP and end with a number, for example, BIP1.
7. You will then see a message about **Partial E-mail Print**. Partial E-mail Print is the ability of the Brother Internet Print software to break down E-mail Print jobs into smaller sections to prevent a mail file size limitation problem for the mail server.
8. Press **OK** to continue.

9 You will then be asked to enter the port settings for the remote Print/Fax server:

Enter any unique legal Internet E-mail address for the remote Print/Fax server (for example emailprinter@xyz.com). Note that Internet E-mail addresses cannot have spaces in them.

Enter your E-mail address and the IP address of your SMTP E-mail server (consult your network administrator if you do not know this address). Also specify if you are going to use the **Partial E-mail Print** option and the **Notification** type.

10 Press **OK** to continue. You will then be asked to re-start your computer.

11 Once your computer has re-started you must create a printer on your Windows® 95/98/Me/NT4.0/2000/XP system using the standard Windows® 95/98/Me/NT4.0/2000/XP printer setup procedure. To do this, go the **Start** button, select **Settings** and then **Printers** (Windows® 95/98/Me/NT4.0/2000/XP). To do this, go to the **Control Panel**, select **Printers and Other Hardware** and then **Printers and Faxes** (or **Add a printer**)(Windows® XP)

12 Select **Add Printer** to begin the printer installation.

13 Click **Next** when you get the **Add Printer Wizard** window.

**<For Windows® 95/98/Me users>**

14 Select **Local Printer** when you are asked how the printers are connected to your computer and push **Next**.

**<For Windows® NT4.0/2000/XP users>**

14 Select **Local Printer**, and then delete the check mark in **Plug and Play** check box.

**<For Windows® XP users>**

14 Select **Local Printer** attached to this computer.

**<For Windows® 95/98/Me users>**

*15* Select the desired model of the remote printer (for example, Brother HL-series). If necessary, click **Have Disk** to load the driver from the CD-ROM. Click **Next** when you are done.

*16* If you have selected a printer driver that is already being used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

*17* Select the **Brother Internet port** (BIP...) which you selected in step 6 and press **Next**.

**<For Windows® NT4.0/2000/XP users>**

*15* Select the **Brother Internet port** (BIP...) which you selected in step 6 and press **Next**.

*16* Select the desired model of the remote printer (for example, Brother HL-series). If necessary, click **Have Disk** to load the driver from the CD-ROM. Click **Next** when you are done.

*17* If you have selected a printer driver that is already being used, you have the option of either keeping the existing driver (recommended) or replacing it. Select the desired option and press **Next**.

*18* Enter any desired name for the BIP remote printer and press **Next**. Note that this name does not need to match the port name that you assigned in step 6, or E-mail address that you assigned in step 9.

*19* Select **No** when asked if you want to print a test page, unless you have already configured the remote Print/Fax server to receive BIP print jobs.

You have now finished installing the BIP software. If you need to configure another remote Print/Fax server, go to the next section, “Adding a Second Brother Internet Port”.

## Adding a Second Brother Internet Port

You should not re-run the install program to add a new Brother Internet Port. Instead, press the **Start** button, select **Settings**, and open the **Printers** window. Click on the icon of a printer that is using BIP, select **File** from the menu bar, and then choose **Properties**. Click on the **Details** (**Ports** on Windows® NT) tab and push the **Add Port** button.

In the **Add Port** dialog, select the **Other** radio button (Windows® 95/98/Me only) and then **Brother Internet Port**. Click **OK** (**New Port** on Windows® NT) and it will give you the **Port Name** text box. Any unique name can be given here as long as it starts with “BIP” and another port does not already exist with the same name.

## Windows® 2000/XP IPP Printing

Use the following instructions if you wish to use the IPP printing capabilities of Windows® 2000/XP.

1. Run the **Add Printer Wizard** and click the **Next** button when you see the **Welcome to the Add Printer Wizard** screen.

2. You are now able to select **Local Printer** or **Network Printer**.
   For Windows® 2000: Make sure that you select **Network Printer**.
   For Windows® XP: Make sure that you select **A Network Printer, or a Printer attached to another computer**.

3. You will see the **Add Printer Wizard** screen.

4. For Windows® 2000: Select **Connect to a printer on the Internet or on your intranet** and then enter the following in the URL field: `http://printer_ip_address:631/ipp` (Where `printer_ip_address` is the IP address or DNS name of your printer).

   For Windows® XP: Select **Connect to a printer on the Internet or on a home or office network** and then enter the following in the URL field: `http://printer_ip_address:631/ipp` (Where `printer_ip_address` is the IP address or DNS name of your printer).

5 When you click **Next**, Windows® 2000/XP will make a connection with the URL that you specified.

**IF THE PRINTER DRIVER HAS ALREADY BEEN INSTALLED**
If the appropriate printer driver is already installed on your PC, Windows® 2000/XP will automatically use that driver for use. In this case, you will simply be asked if you wish to make the driver the default driver, after which the Driver installation Wizard will complete. You are now ready to print.

**IF THE PRINTER DRIVER HAS NOT BEEN INSTALLED**
One of the benefits of the IPP printing protocol is that it establishes the model name of the printer when you communicate with it. After successful communication you will see the model name of the printer automatically. This means that you do not need to inform Windows® 2000 the type of printer driver to be used.

6 Click **OK**. You will then see the printer selection screen in the **Add Printer Wizard**.

7 If your printer is not in the list of supported printers, click the **Have Disk** button. You will then be asked to insert the driver disk.

8 Click the **Browse** button and select the CD-ROM or network share that contains the appropriate Brother printer driver.

9 Now specify the model name of the printer.

10 If the printer driver that you are installing does not have a Digital Certificate you will see a warning message. Click **Yes** to continue with the installation. The **Add Printer Wizard** will then complete.

11 Click the **Finish** button and the printer is now configured and ready to print. To test the printer connection, print a test page.

## Specifying a different URL

Please note that there are several possible entries that you can enter for the URL field.

**http://printer_ip_address:631/ipp**
This is the default URL and we recommend that you use this URL. Please note the **Get More Info** option will not display any printer data.

**http://printer_ip_address:631/ipp/port1**
This is for HP JetDirect compatibility. Please note the **Get More Info** option will not display any printer data.

**http://printer_ip_address:631/**
If you forget the URL details, you can simply enter the above text and the printer will still receive and process data. please note the **Get More Info** option will not display any printer data.

If you are using the built in service names that the Brother NC-9100h series Print/Fax server supports, you can also use the following: (However, please note the **Get More Info** option will not display any printer data).

```
http://printer_ip_address:631/brn_xxxxxx_p1
http://printer_ip_address:631/binary_p1
http://printer_ip_address:631/text_p1
http://printer_ip_address:631/postscript_p1
http://printer_ip_address:631/pcl_p1
http://printer_ip_address:631/brn_xxxxxx_p1_at
```

Where `printer_ip_address` is the IP address of the printer.

## Other Sources of Information

1. Visit http://solutions.brother.com/ for more information on network printing and for documents on the IPP protocol and how to configure a Windows® 2000/95/98/Me System.

2. Visit Microsoft's web site for the "Microsoft Internet Print Services" software for Windows® 95/98/Me.

3. Refer to *chapter 11* of this user guide to learn how to configure the IP address of the printer.

# 6 Novell NetWare Printing

## How to configure Novell NetWare Printing

### Overview

Brother Print/Fax servers allow NetWare client PCs to print jobs on the same printer as TCP/IP or other network protocol users. All NetWare jobs are spooled through the Novell server and delivered to the printer when it is available.

**Quick Tips:**

1. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the printer control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

2. The default password for Brother Print/Fax servers is `access`.

## General Information

In order to use a Brother Print/Fax server on a NetWare network, one or more file servers must be configured with a print queue that the Print/Fax server can service. Users send their print requests to the file server's print queue, and the jobs are then spooled (either directly, or in the case of remote printer mode, via an intermediate Print/Fax server) to the appropriate Brother Print/Fax server.

The system administrator can create Bindery (NetWare 3), NDS (NetWare 3 and NetWare 4) based queues in a single environment without having to switch between applications by using the BRAdmin Professional utility.

NetWare 5 users wishing to configure an NDPS printer must use the NWADMIN application supplied with NetWare 5. Please note that it is possible to create IPX BINDERY or NDS based queues on a NetWare 5 system using the BRAdmin Professional utility.

You must install the Novell NetWare Client 32 if you wish to create queue information on your NetWare servers using the BRAdmin Professional utility.

If you can't use the BRAdmin Professional utility in your environment, you can create the queue using the traditional NetWare PCONSOLE utility or NWADMIN utilities, but you will then also need to use a WWW browser to configure the Print/Fax server as described later in this chapter.

Brother Print/Fax servers can service up to 16 file servers and 32 queues.

## Creating a NDPS Printer Using NWADMIN for NetWare5

With NetWare 5, Novell has released a new preferred printing system called Novell Distributed Print Services (NDPS). Before the Print/Fax server can be configured, NDPS must be installed on the NetWare 5 server and an NDPS Manager configured on the server.

For further information regarding NDPS printers and printing please refer to the "*Other Sources of Information*" section at the end of this chapter.

## NDPS Manager

This creates a NDPS manager that interacts with services running at the server and manages an unlimited number of printer agents.

You have to create an NDPS manager within an NDS tree before creating server-based printer agents. If the NDPS manager controls a printer attached directly to the server, you must load the manager on the server that the printer is attached to.

1. In NetWare administrator, navigate to the area you want the NDPS manager to reside. Select **Object | Create | NDPS Manager** and click **OK**.

2. Enter an **NDPS manager name**.

3. Browse to a server (which has NDPS installed but no NDPS manager installed) where you want to install the NDPS manager and then to the volume you want the NDPS manager database assigned to. Click **create**.

## NDPS Broker

When NDPS is installed, an NDPS broker is loaded onto the network. One of the Broker services Resource Management Service allows Printer Drivers to be installed onto the server for use with Printer Agents.

To add a Printer Driver to the Broker:

1. Make sure the **Resource Management Service** is enabled.
2. Open the **Broker Object's** main window in NetWare Administrator
3. Select the **Resource Management** view.
4. The **Resource Management** dialog appears. Select the **Add Resources** button.
5. When the **Manage Resources** dialog appears, select the icon for the type of driver you want to add. This will be a 3.1x, 95/98/Me or NT4.0 driver for NetWare 5 (Additionally, a Windows® 2000 driver is available for NetWare 5.1). If you are using NDPS version 1 with NetWare 4.x, only 3.1x and 95/98/Me options will be available. NDPS version 2 for NetWare 4.x will support NT drivers automatic download.
6. A complete list of currently loaded resources of that type appears in the **Current Resources** window. Click the **Add** button.
7. The **Add <resource type>** dialog appears. The listed resources that appear on this screen are currently installed.
8. Press the **Browse** button to locate the driver you want to add to the list. The driver list appears possibly showing several printers. This should be the driver in the different languages.

## Creating a Printer Agent

Follow the steps below to create a Printer Agent for the control access printer (NDS object).

1. In NetWare Administrator, select **object | create | NDPS Printer**. Enter the NDPS printer name.

For further information regarding NDPS printers and printing please refer to the "*Other Sources of Information*" section at the end of this chapter.

2. If this is a new printer select **create A New Printer Agent**.

3. If there is already an NDS printer and you are upgrading it to use the NDPS scheme, select **Existing NDS printer object**. You will then have to select which printer object you wish to upgrade.

4. Enter the name you wish the Printer Agent to be referred to by, and either type the name of the NDPS Manager or click the reference button and select a NDPS Manager. Select **Novell Printer Gateway** for the **Gateway type** and click **OK**.

5. Select **None** for the printer Type, and **Novell Port Handler** for the Port Handler Type. Then click **OK**.

6. You must now specify the type of connection that you are going to use. There are four possible options. Select the **LPR over IP** option.

7. Enter the relevant details of the printer, and Brother recommends typing `Binary_P1` for the printer name. Click **finish** and wait. Select the printer drivers for the client operating systems.

Follow the steps below to create a Printer Agent for the public access printer.

1. In NetWare Administrator, double click **NDPS Manager**.

2. Click **Printer Agent List**.

3. Click **New**.

4 Enter the name you wish the Printer Agent to be referred to by, and select **Novell Printer Gateway** for the **Gateway type** and click **OK**.

5 Select **None** for the printer Type, and **Novell Port Handler** for the Port Handler Type. Then click **OK**.

6 You must now specify the type of connection that you are going to use. There are four possible options. Select the **LPR over IP** option.

7 Enter the relevant details of the printer and Brother recommends typing `Binary_P1` for the printer name. Click **finish** and wait. Select the printer drivers for the client operating systems.

You are now ready to print.

## Configuring NetWare 3 and NetWare 4 systems

Brother's BRAdmin Proffesional utility provides similar functionality to the NetWare PCONSOLE utility (or the NWADMIN utility in NetWare 4.1x or later). To use the BRAdmin Professional utility to configure a Brother Print/Fax server under NetWare, make sure that you are logged in as SUPERVISOR (NetWare 2.xx or 3.xx) or ADMIN (NetWare 4.1x or later) and perform the appropriate steps as detailed in the following pages.

You must install the Novell NetWare Client 32 if you wish to create queue information on your NetWare servers by BRAdmin Professional utility.

## Configuring the Brother Print/Fax Server (Queue Server Mode in Bindery emulation mode) using BRAdmin Professional utility

1 Make sure that you logged in as SUPERVISOR (NetWare 2.xx or 3.xx) or ADMIN (NetWare 4.xx or later).

2 Start BRAdmin Professional utility.

3 One or more Print/Fax servers will appear in the list (the default node names are BRN_xxxxxx, where xxxxxx is the last six digits of the Ethernet address (MAC address)).

You can find the node name and MAC address by printing out the printer configuration page. Refer to the User's Guide Chapter 23 for information on how to printer the configuration page on your Print/Fax server.

4 Select the Print/Fax server that you wish to configure and double click it. You will be asked for a password. The default password is access.

5 Select the NetWare tab.

If necessary change the **Print/Fax Server Name**. The default NetWare Print/Fax server name will usually be BRN_xxxxxx_P1 where xxxxxx is the Ethernet address of the Print/Fax server. Be careful! Changing the name may impact the configuration of other protocols because the print server service names will be altered.

a If it is not already selected, select **Queue Server** as the operating mode.

b Click the **Change Bindery Queues** button.

c Select the NetWare server which you wish to configure.

d Select the **New Queue** button and type in the queue name which you wish to create.

e Once you have done that highlight the queue name you created and click on the **Add** button.

f Click on **Close** and then **OK**.

Now exit the BRAdmin Professional utility. You are ready to print.

## Configuring the Brother Print/Fax Server (Queue Server Mode in NDS mode) using BRAdmin Professional utility

1. Make sure that you logged in as ADMIN in NDS mode.
2. Start BRAdmin Professional utility.
3. One or more Print/Fax server services will appear in the list of printers (the default node names are BRN_xxxxxx, where xxxxxx is the last six digits of the Ethernet address (MAC address)).

You can find the node name and MAC address by printing out the printer configuration page. Refer to the User's Guide Chapter 23 for information on how to print the configuration page on your Print/Fax server.

4. Select the printer that you wish to configure and double click it. You will be asked for a password. The default password is access.
5. Select the **NetWare** tab.
   a. If it is not already selected, select **Queue Server** as the operating mode.
   b. Select the correct NDS tree and NDS context (you can manually enter this information, or by clicking on the down arrow by the side of NDS tree and the **Change** button by the side of NDS Context, you can let BRAdmin Professional utility display your choices automatically). Once you have specified this information, click on the **Change NDS queues** button.
   c. In the **NetWare Print Queues** screen select the appropriate TREE and Context and then click the **New Queue** button.
   d. Enter the queue name and specify the volume name. If you do not know the volume name, select the **Browse** button to browse the NetWare volumes. When the information is entered correctly, select the **OK** button.

*e* Your queue name will appear in the TREE and Context that you specified. Select the queue and click on **Add**. The queue name will then be transferred to the Service Print Queues Window. You will be able to see the TREE and Context information along with the queue name information in this Window.

*f* Click on the **Close** button. Your Brother Print/Fax server will now log into the appropriate NetWare server.

Now exit the BRAdmin Professional utility. You are ready to print.

## Configuring the Brother Print/Fax Server (Queue Server Mode in NDS mode) using Novell NWADMIN and BRAdmin Professional utility

If you do not wish to use the Brother BRAdmin Professional utility application solely to configure your NetWare file server, use the following instructions for configuration using the NWADMIN application in conjunction with the BRAdmin Professional utility.

*1* Make sure that you are logged in as `ADMIN` in NDS mode on the NetWare 4.1x (or later) file server and start the NWADMIN application.

*2* Select desired **Context** that will contain the Printer and then click on **Object** from the menu bar and then **Create**. When you get the **New Object** menu, select **Printer** and then **OK**.

*3* Enter the name of the printer and select **Create**.

*4* Select the desired **Context** that will contain the default print queue, and then click on **Object** and **Create** to get the **New Object** menu.

*5* Select **Print Queue** and then **OK**. Make sure that **Directory Service Queue** is selected and then type in a name for the default print queue.

*6* Click on the button to select the print queue volume. Change the directory context if necessary, then select the desired volume (from **Available Objects**) and click **OK**. Click **Create** to create the print queue.

7 Change context if required and then double click the name of the printer you created in step 3.

8 Click **Assignments**.

9 Click **Add**.

10 Change the context if necessary.

11 Select the print queue you created in step 5.

12 Click **Configuration** and set the **Printer type** to **Other/ Unknown**. Click **OK**.

13 Change the context if required, select **Object** from the menu bar and then **Create**. When you get the **New Object** menu, select **Print/Fax server** and then **OK**.

14 Enter the name of the Print/Fax server and select **Create**.

Enter the NetWare Print/Fax server name of the Print/Fax server exactly as it appeared in the NetWare tab of the BRAdmin Professional utility (this will generally be the `BRN_xxxxxx_P1` default service name, unless you changed the name).

You can find the current service name and MAC address by printing out the DCP/MFC configuration page. Refer to the User's Guide Chapter 23 for information on how to print the configuration page on your Printer/Fax server.

**Important:**
Do not assign a password to the Print/Fax server or it will not log in.

15 Double click on the name of your Print/Fax server. Click on **Assignments** and then **Add...**

16 If necessary, change the directory context. Select the printer you created in step 3 and click **OK** and then **OK** again.

17 Exit NWADMIN.

18 Start the appropriate BRAdmin Professional utility, and select the correct Printer/Fax server from the list (by default, the node name is `BRN_xxxxxx`, where `xxxxxx` is the last six digits of the Ethernet address (MAC address)).

19 Double click the appropriate Brother Print/Fax server. You will be prompted for a password, the default password is `access`. Now select the NetWare tab.

20 Select **Queue Server** as the operating mode.

The same service assigned by NetWare server name cannot be used for both queue server mode and remote printer mode.

If you want to enable queue server capabilities on services other than the default NetWare services, you must define new services that are enabled for NetWare and for the desired port. Refer to the *Appendix* in this manual for information on how to do this.

21 Enter the NDS tree name (note that a Print/Fax server can service both NDS and bindery queues).

22 Type in the name of the context where the Print/Fax server resides.

23 Exit the BRAdmin Professional utility making sure that you save the changes that you have made. You are now ready to print.

## Configuring the Brother Print/Fax Server (Remote Printer Mode in NDS mode) using Novell NWAdmin and BRAdmin Professional utility

To configure a Brother Print/Fax server for remote printer mode with NWADMIN (NetWare Administrator utility) and BRAdmin Professional utility, you will need to perform the following steps:

1. Make sure that the PSERVER NLM (NetWare Loadable Module) is loaded on your file server and that you are logged in as ADMIN in NDS mode on the NetWare 4.1x file server.

2. Start NWADMIN by double clicking on the icon. Select the desired **Context** that will contain the new printer.

3. Select **Object** from the menu bar and then **Create**. When you get the **New Object** menu, select **Printer** and then **OK**.

4. Enter the name of the printer and select **Create**.

5. Double click on the Print/Fax server name of your PSERVER NLM. Click on **Assignments** and then **Add**.

6. If necessary, change the directory context. Select the printer you created and click **OK**. Note the number of the printer, as you will use this later, then click **OK**.

7. Select the desired **Context** that will contain the default print queue, and then click on **Object** and **Create** to get **New Object** menu.

8. Select **Print Queue** and then **OK**. Make sure that Directory Service Queue is selected, and then type in a name for the default print queue.

9. Click on the button to select the print queue volume. Change the directory context if necessary, then select the desired volume (Objects) and click **OK**. Click **Create** to create the print queue.

10. Change context if required and then double click the name of the printer you created previously.

11. Click **Assignments** and then **Add**.

12 Change context if necessary and select the print queue you created. Click **OK** and then **OK** again, and then exit NWADMIN.

13 Start the appropriate BRAdmin Professional utility, and select the correct print server you wish to configure (by default, the node names will begin with `BRN_xxxxxx_P1`)

You can find the NetWare server name and MAC address by printing out the DCP/MFC configuration page. Refer to the User's Guide Chapter 23 for information on how to print the configuration page on your print server.

14 Double click the appropriate Print/Fax server. You will be prompted for a password, the default password is `access`.

15 Now select the **NetWare** tab.

16 Select **Remote Printer** as the **Operating Mode**, select the name of your PSERVER NLM as the Print/Fax server Name and select the number of the printer from step 6 as the Printer Number.

The same service assigned by NetWare Print/Fax server cannot be used for both queue server mode and remote printer mode. If you want to enable remote printer capabilities on a service other than the default NetWare service, you must define new services that are enabled for NetWare and for the desired port.

17 Click **OK**. And exit BRAdmin Professional utility.

You must now unload the PSERVER NLM from your NetWare file server console and then reload it in order for the changes to take effect.

## Other Sources of Information

1 Visit http://solutions.brother.com/ for more information on network printing.

2 Refer to *chapter 11* of this user guide to learn how to configure the IP address of the printer.

# 7 AppleTalk (EtherTalk)

# TCP/IP Printing

## Printing From a Macintosh

This chapter explains how to configure the PostScript driver on a Network. For more information on how to configure the default Quick Draw driver on a Network, see the Quick Setup Guide included with the machine.

### Overview

Brother print servers support the AppleTalk protocol running over Ethernet (also known as EtherTalk). This allows Macintosh users to print at the same time as all other Ethernet network using the AppleTalk (also referred to as EtherTalk) protocol.

With the release of System 8.6 or later, Apple introduced a TCP/IP printing capability. This allows Macintosh users to send print jobs using the TCP/IP protocol.

For updated information on printing from a Macintosh visit the Brother Solutions web site at: http://solutions.brother.com

**Quick Tips:**

1. The default name that will appear in the Chooser of a Macintosh will usually be `BRN_xxxxxx_P1_AT` (where `xxxxxx` is the last 6 digits of the Ethernet address)

2. From a Macintosh network, the easiest way to change this name is to assign an IP address to the printer and then use a Web browser to change the name. Connect to the printer using a web browser and then click on **Network Configuration**. Enter the password (the default password is `access`) then select **Configure AppleTalk**. Click on `BRN_xxxxxx_P1_AT`, then on **Service Name**. Enter the new name that you wish to appear in **Chooser**. Then click on **Submit**.

3. System 8.6 or later supports TCP/IP printing.

4. The default password for Brother print servers is `access`.

5. To print a printer settings page, see *chapter 23* of the User's Guide.

6. The Automatic Private IP Addressing (APIPA) protocol automatically assigns an IP address from the range: 169.254.1.0 to 169.254.254.255. If you want to disable the APIPA protocol, set APIPA to Off using control panel. For more information see page 10-9. If the APIPA protocol is disabled, the default IP address of a Brother Print/Fax server is 192.0.0.192. To change it, use the printer control panel, the BRAdmin Professional utility, Web BRAdmin software or let your DHCP server allocate an IP address to the printer.

## Macintosh Configuration (OS 8.6 - 9.2)

Your Brother Printer is compatible with the standard Apple LaserWriter 8 printer driver (earlier versions of the LaserWriter drivers may crash or cause PostScript errors on large networks). If you do not have the LaserWriter 8 driver you must install it. Consult your Macintosh documentation for instructions on how to do this.

Before you try to use the Brother print server, you must first enable the EtherTalk protocol from the **Network Control Panel** on the

Macintosh. If the EtherTalk protocol is not selected, or the **Network Control Panel** does not exist, you must use Apple's **Network Installer** software to add these capabilities.

The appropriate PPD file supplied with your printer must first be installed. Insert the CD-ROM into the CD-ROM drive of your computer. Select the **Start Here** icon, select your language and follow the on-screen instructions for **Install Software**.

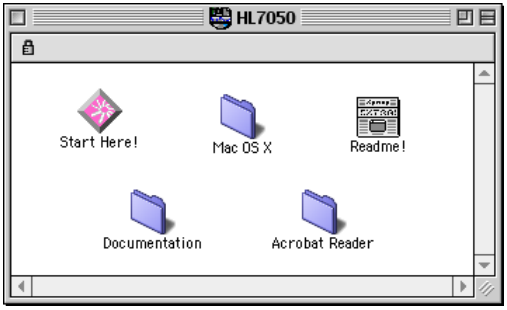



**Figure 1 Typical Macintosh Installer**

The above screenshot is from a Brother HL-7050 series printer driver. However, you will see a similar screen for all Brother printers that include a Macintosh printer driver.

## How to Select the Print Server (AppleTalk/EtherTalk)

Once the print server is connected on your network and the printer is powered on, the Brother print server's AppleTalk service name (default is `BRN_xxxxxx_P1_AT`, where `xxxxxx` is the last six digits of the Ethernet address (MAC address) should appear in the **Chooser**.

You can find the service name and MAC address by printing out the printer configuration page. Refer to the User's Guide Chapter 23 for information on how to print the configuration page on your print server.

1 Open the **Chooser** from the **Apple Menu** on the Macintosh, and then click on the LaserWriter icon (if necessary, select the appropriate AppleTalk zone from the **Network Control Panel**).

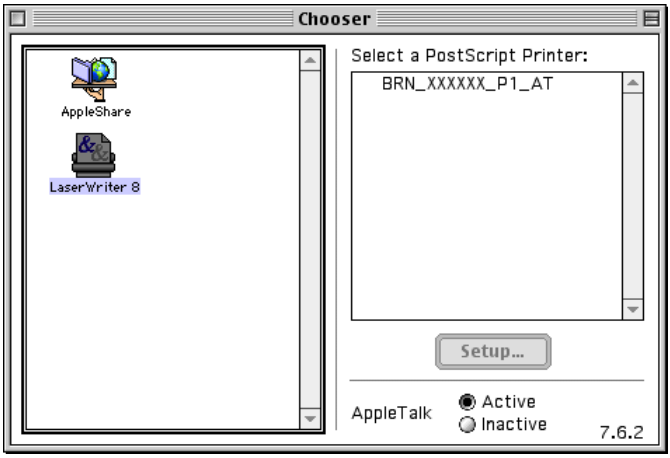



**Figure 2 Macintosh Chooser**

2 Click on the appropriate print server and close the **Chooser** program. You should now be able to print from the Macintosh.

If you cannot see the print server, first make sure that your cabling is correct and that you have enabled EtherTalk from your Macintosh **Network Control Panel**. You may also need to force the print server into the correct AppleTalk zone using the BRAdmin Professional utility or a web browser.

## How to Select the Print Server (TCP/IP)

Apple has developed the **"Desktop Printer"** utility. This can be found from the **Apple menu** (this is only available from System 8.6 or later). When you run it you will see the following screen:

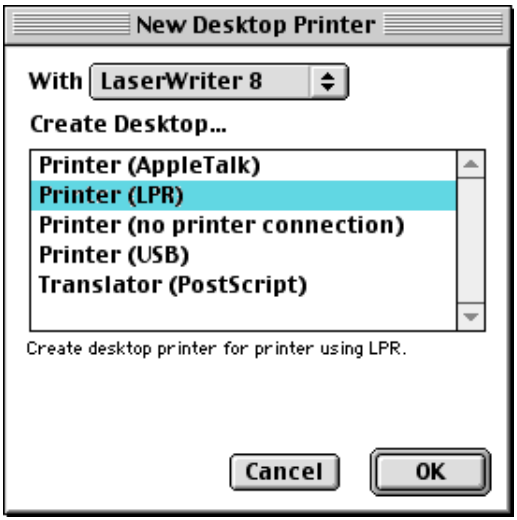



**Figure 3 Selecting LPR Printing**

1 Select the **Printer (LPR**) option and click **OK**. You will then see the following:

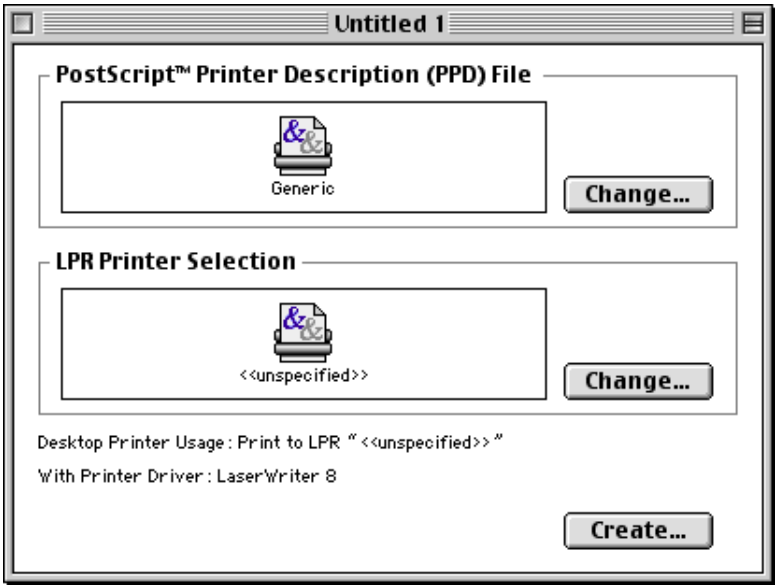



**Figure 4 Selecting the PPD and LPR Configuration**

2 At this point we must select the correct PPD file for the printer and also configure the correct LPR information. Click the **Change** button in the **PostScript Printer Description (PPD) File** section and select the appropriate PPD file for your model.

3 Now select the **Change** button below the **LPR Printer Selection** text.

4 You must then enter the IP address and service name details of the printer. When specifying the **Queue**, use the value `brn_xxxxxx_p1_at` where `xxxxxx` are the last 6 digits of the Ethernet address.

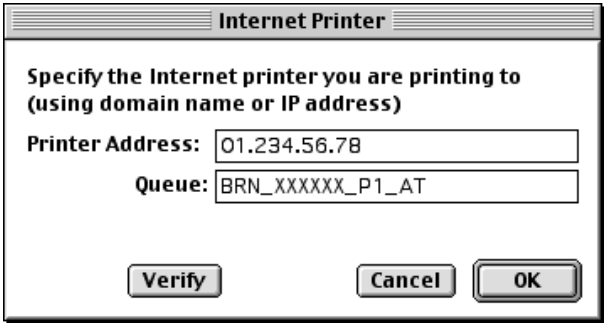



**Figure 5 Entering the IP address and Queue**

If you do not specify the correct value the printer may not print, or it may not print the data correctly. Please ensure that the value you enter here matches with the Service name of the printer.

*5* Click **OK** to go back to the previous screen.

*6* You are now ready to create the printer for use. To do that, click the **Create** button and you will see the following:

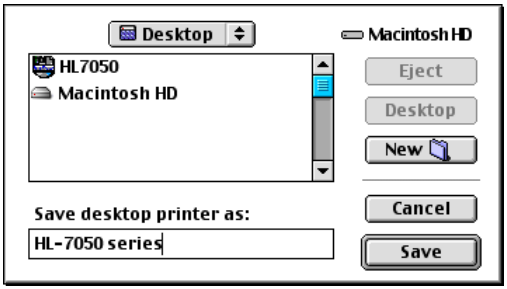



**Figure 6 Saving the printer to the Desktop (screen shown is from the HL-7050)**

*7* Enter the name of the printer in the **Save desktop printer As:** option and click on **Save**.

*8* We must now make this our default printer by clicking the printer name once and then select **Printing** and **Set Default Printer**.

Whenever you send a print job, the printer that you just created will be used.

## Macintosh Configuration (OS X 10.1-10.2.1 or greater)

The appropriate PPD file supplied with your printer must be installed. Insert the CD-ROM into the CD-ROM drive of your computer. Select the **Start Here OSX** and follow the on-screen instructions.

## How to Select the Print Server (AppleTalk/EtherTalk)

After installing the PPD, use the following steps to select the printer driver:

1. Turn the power of the printer ON.
2. Open the **Applications** folder.
3. Open the **Utilities** folder.
4. Open the **Print Center** Icon.
5. Click the **Add Printer** button.
6. Select **AppleTalk**.
7. Select `BRN_XXXXXX_P1_AT` and click the **Add** button.

For AppleTalk connections, the printer's AppleTalk service name is `BRN_XXXXXX_P1_AT`, where `XXXXXX` is the last six digits of the Ethernet address.

Printing the configuration page will allow you to confirm the MAC address. Please refer to the User's Guide Chapter 23 for information on how to print the configuration page.

8 From the **Printer Model** pull-down list select your model.

9 Click **Add** and the printer will be available from the **Printer List**.

## How to Select the Print Server (TCP/IP)

After installing the PPD, use the following steps to select the printer driver:

1 Turn the power of the printer ON.

2 Open the **Applications** folder.

3 Open the **Utilities** folder.

4 Open the **Print Center** Icon.

5 Click the **Add Printer** button.

6 Select **LPR Printers using IP**.

7 Enter the TCP/IP address of the printer into the **LPR Printer's Address** box.

Printing the configuration page will allow you to confirm the TCP/IP address. Please refer to the User's Guide Chapter 23 for information on how to print the configuration page.

8 If you are not using the default **Queue** enter the Queue name you are using.

9 From the **Printer Model** pull-down list select your model.

10 Click **Add** and the printer will be available from the **Printer List**.

## Changing the Configuration

From a Macintosh, the easiest way to change the printer or print server parameters is to use a web browser.

Simply connect to the printer using the format: `http://ip_address` where `ip_address` is the address of the printer.

## Other Sources of Information

1. Visit http://solutions.brother.com/ for more information on network printing.
2. Refer to *chapter 11* of this user guide to learn how to configure the IP address of the printer.
3. Refer to *chapter 9* for more information on web-based management.

## Rendezvous Printing

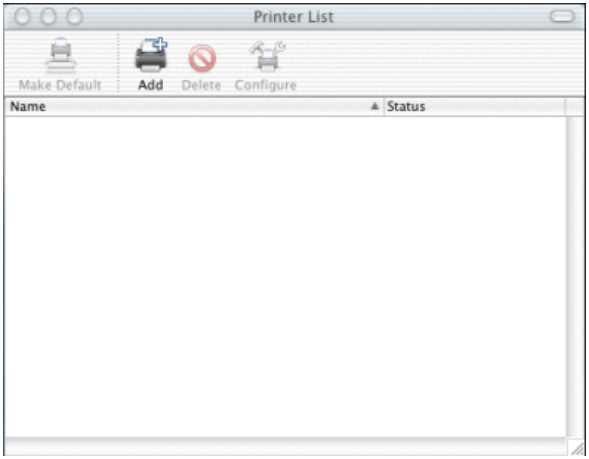
Rendezvous lets you create an instant network of computers and smart devices just by connecting them to each other.

Rendezvous support allows a Rendezvous ready printer to automatically configure itself to work in a OS X Rendezvous system. You do not need to manually configure any IP address or network settings within the printer as the printer will automatically configure itself.

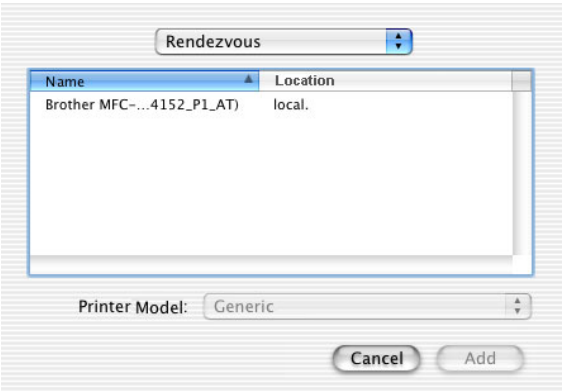
Refer to the information below if you wish to learn how to configure a Brother DCP/MFC into a Mac OS X Rendezvous environment. Please note Brother recommends that you use version OS X 10.2.2 or later.

Visit http://solutions.brother.com/ for the latest information on how to set of Rendezvous Printing for Mac OS 10.2.

1 Run the **Print Center** software and click the **Add**.




2 Select **Rendezvous** and any Rendezvous compatible machines will be displayed.




If you are using OS X 10.2.1, three DCP/MFC are listed. Select any one of the DCP/MFC listed.

3 Click the machine and then change the **Printer Model** to "Brother". The PPD files that are installed on your Macintosh are